

Assignment 06 — 24/10/2018 – v1.0a

Software Metrics and Problem Detection

Please submit this exercise by mail to sma@list.inf.unibe.ch before 31 October 2018, 10:15am.

Note: For the following exercises you should use the pre-configured Moose 6.1 environments available in 32 bit flavor for [Linux](#), [Windows](#), and [macOS](#). Please choose the correct version for download in accordance with your current platform.

Exercise 1: Metrics (8 Points)

- What is the cyclomatic complexity? Explain the term and use the words *benefit* and *drawback* in your answer.
- Which other metrics do you know? List at least four and provide a short description for each.
- Do metrics always express problems? In other words, is, for example, the lack of cohesion always a property to optimize?
- How and when are nowadays checks for those metrics integrated into development processes?

Exercise 2: Evaluation of metrics (2 Points)

- Write a query to find all classes that have more than 42 methods.
- Write a query to find all methods that have cyclomatic complexity more than 84.
- What kinds of methods have a cyclomatic complexity of more than 84?
- Is 84 a large value for the cyclomatic metric?

Exercise 3: More evaluation of metrics (6 BONUS Points)

- Write a query to obtain the list of classes from any package that begins with `org.argouml.core` or `org.apache.solr` that call deprecated methods. The packages can be downloaded [here](#) and [here](#).
- Write a query to obtain all attributes that are public and camel case with capital letters, but are not declared final.
- Advanced:* Write a query to obtain the list of methods that make more than one call to methods from deprecated classes.